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self-aggrandizement obscured his judgment, which was guided solely by his desire for scientific honesty and truth. Small wonder that he became a progressive and a radical in systematic zoology, so much so that when he first published his classificatory arrangement of fishes and other vertebrates he was almost a generation ahead of his time. True, his ideas were taken up and carried out by his pupils, the American ichthyologists with David Starr Jordan at their head, but it is only recently that he had the satisfaction of learning that the European fish specialists have finally accepted his views, giving him unstinted praise for their originality and intrinsic worth.

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#### SCIENTIFIC NOTES AND NEWS

M. PAUL DE SAINT MARCEAUX has completed the monument which is to be dedicated in memory of Pierre Berthelot, the great French chemist, in front of the Collège de France, Paris.

ON the occasion of the Australian meeting of the British Association, the University of Adelaide conferred the degree of doctor of science on Professor W. J. Sollas, Professor A. Penck, Professor T. W. Edgeworth David, Professor E. W. Brown, Sir Oliver Lodge, Professor H. Jungersen, Professor G. W. O. Howe, Dr. C. F. Juritz and Professor von Luschan.

DR. EUGEN OBERHUMMER, professor of geography at the University of Vienna, was appointed visiting Austrian professor to Columbia University for the academic year. Despite the war Professor Oberhummer is expected to be in residence during the second half-year. The visiting professors appointed from Russia and France, Professors Theodor Niemeyer and M. Paul Hazard, are said to have been called to military service.

DR. ALLAN J. McLAUGHLIN, of the U. S. Health Service, has been appointed health commissioner for Massachusetts.

THE Quadrennial Fellowship of \$1,000 of the Nantucket Maria Mitchell Association for the year June 15, 1915, to June 15, 1916, has

been awarded to Miss Margaret Harwood, A.B., Radcliffe College, 1907, who has been for three years astronomical fellow of the association. Miss Harwood has elected to work at the University of California. The second fellowship of \$500 has been awarded a year in advance, in order that the candidate may prepare herself for the special work undertaken by the Maria Mitchell Observatory. Miss Susan Raymond, A.B., Smith College, 1913, has received the appointment.

DR. JOHAN NORDAL FISCHER WILLE, professor of botany and director of the Botanical Garden of the University of Christiania, is visiting the botanical institutions of the United States. He is one of the foreign delegates to the celebration of the twenty-fifth anniversary of the Missouri Botanical Garden to be held at St. Louis on October 15 and 16.

THE following members of the Western Reserve University medical faculty have returned from abroad: T. N. Stewart, professor of experimental medicine; J. J. R. MacLeod, professor of physiology; G. W. Todd, professor of anatomy and P. J. Hanzlik, instructor in pharmacology.

THE first meeting of the new session of the Royal Geographical Society, London, will be held on November 9, when Mr. Belloc will lecture on "The Geography of the War." On November 23, Lord Bryce will deal with "The Mental Training of a Traveler," and on December 7, Miss Lowthian Bell will give an account of her recent journey in Arabia.

THE death is recorded in *Nature* of George Gresswell, formerly lecturer in physical science, under the government of the Cape of Good Hope, at the Diocesan College, Rondebosch, and demonstrator of practical physiology and histology at Westminster Hospital.

A MEETING of the Society for the Promotion of Industrial Education will be held at Richmond, Va., December 9-12.

WE learn from the Los Angeles *Tribune* of September 29, that the collection of Mr. Henry Hemphill, recently referred to in *SCIENCE*, was

bequeathed to the California Academy of Sciences and is being prepared for exhibition at the Exposition by Mrs. T. S. Oldroyd, the well-known collector of California shells.

A GIFT of \$15,000 a year for a period of five years has been made to the Egyptian Department of the Metropolitan Art Museum, by Mrs. Edward J. Tytus, as a memorial to her son, Robb de Peyster Tytus, who died last year.

THE British Board of Trade has arranged for a commission consisting of representatives of the Board of Trade, the Timber Trade Federation of the United Kingdom, and the Mining Association of Great Britain, to proceed to Canada and Newfoundland in order to enquire into the possibility of opening up new sources of supplies of mining timber for use in the coal mines of Great Britain.

ACCORDING to a report which has just been issued by the United States Bureau of Mines, the number of men killed in and about quarries in 1913 was 183. The number of men employed in the quarry industry was 106,278, and the death rate per 1,000 employed was 1.72, as compared with 1.88 during 1912. The number of men killed in 1912 was 213, the figures for 1913 showing a decrease of thirty deaths or 14 per cent. The figures show that the principal hazards of quarrying appear to be equally divided between explosives, falls of quarry material, and haulage. Accidents from these causes represent nearly two thirds of the fatalities. Albert H. Fay, engineer of the bureau, who compiled the statistics, makes the statement that in France the fatality rate for quarry accidents is seldom more than one in every 1,000 men employed, and in the year 1912 was even less than one. In Great Britain, for the ten years 1895 to 1904, the rate was 1.09 for every 1,000 men employed.

MINNESOTA far outranks all other states in the mining of iron ore, and during the last four years has contributed both in quantity and value considerably more than half the iron ore produced and marketed in the United States, according to the United States Geological Survey. In 1913 the total marketed

production of iron ore in this country was 59,643,098 long tons, valued at \$130,905,558, of which Minnesota contributed 36,603,331 tons, valued at \$80,789,025. In 1912 Minnesota produced 34,249,813 long tons of iron ore, valued at \$61,805,017. Because of its great wealth in iron ores and of their extended development, Minnesota ranks ninth among all the states in the total value of its mineral production. The value of the iron ore produced in the state represents considerably more than 90 per cent. of the total output. The value of the mineral products of Minnesota in 1913, exclusive of iron ore, was \$5,025,508. These include the products of the stone quarries and the clay pits.

THE United States Bureau of Mines is planning a comprehensive exhibit at the Panama-Pacific Exposition. In arranging the exhibit, the bureau has had in mind, not only the value of interesting those engaged in the various mining and metallurgical industries, but also the education of the general public to a better knowledge of the magnitude of these industries and to the efforts which are honestly being made by the miners and mine operators, with the assistance of the Bureau of Mines, looking toward a more safe conduct of mining and a more efficient utilization of the products of the mines after they are won from the earth. The bureau's exhibit is located in the Palace of Mines and Metallurgy. An automatic duplex projecting machine will continuously show lantern slides illustrative of the activities of the bureau and simultaneously give descriptions of the lantern slides. Near by will be shown the lay-out of a model hospital, including a receiving room, ward room and operating room, fully equipped for demonstrations by the United States Marine Hospital Service; also a model of a change and wash house, another welfare feature which is being installed at modern mining and metallurgical operations. A plan of an ideal mining town will be shown. First-aid demonstrations will be given frequently. An air of reality will be lent to the demonstration by the removal of apparently injured men from the exhibition mine beneath the building by hel-

met and rescue crews. A complete display of rescue apparatus and safety lamps will be given in a glass smoke-room. Tests of safety lamps will be made, showing their tendency, under unfavorable conditions, to ignite explosive gas, and also showing methods of testing for explosive gas by means of their caps. An exhibit of the physical and chemical characteristics and constituents of explosives is being arranged. Visitors going through the exhibition mine will regain the surface through the radium booth in which actual radium emanations will be shown. Surrounding this radium booth, there will be complete exhibits of the various radium ores and of radium products. The metallurgy of various products will be shown by a comprehensive exhibit. The opportunity for increased efficiency in the use of fuels will be demonstrated by a device showing the proportionate amounts of fuels which go to make up the various losses incident to consumption in comparison with that which ultimately goes to useful purposes. Typical analyses of coal from the various fields will be shown by models and samples, as will also the yield of coke and by-products obtained by various coking processes. It is expected to show smoke-preventing and smoke-producing methods of stoking by means of an ingenious motion-picture device. An officer of the bureau will give his whole attention to visitors. Copies of the bureau's publications will be available for free distribution to visitors who may be particularly interested. This exhibit, in connection with the exhibition mine immediately beneath the bureau's space, should be interesting and instructive to those engaged in the mining industry and to the general public.

MR. W. G. VIETH has sent the *Geographical Journal* an account of a new island hitherto uncharted in the Kazan-retto group (Volcano Islands). Mr. Vieth left Yokohama in the yacht *Tilikum II.* on January 24, 1914, bound for Brisbane, Australia. It was while anchoring at Point Lloyd, Bonin Islands, that news was received that a Japanese resident on Naka-Iwojima (Sulphur Island), the middle

one of the Kazan-retto group, had just arrived there reporting the phenomenon. It was at once decided to alter the course of the *Tilikum II.*, in order to investigate the matter. When the yacht cleared Point Lloyd, a Japanese man-of-war had just arrived there with orders of a like nature, but as the latter stayed a few days at Point Lloyd, Mr. Vieth's boat was the first to arrive at the scene. "At about 9 A.M. on February 14," he writes, "we sighted a cloud of thick blackish smoke rapidly shooting up from the sea in column shape. About noon we came quite close to the island, which is of circular form, about 1 mile in diameter, 600 feet high, with a crater in the center, opening to the southeast. It is 3 miles distant in north-westerly direction from San Augustino, the southernmost of the Volcano group. All these measures are calculated only, as we did not attempt a landing, the violent eruptions at short intervals, sometimes accompanied by a rumbling noise, preventing our approaching nearer than, say, one third of a mile. Plenty of pumice-stone was floating in the sea in patches. The island itself shows the same yellowish-gray color, and seems to consist in bulk of the same light material. The neighboring San Augustino is of much greater height, clothed with vegetation, and rises steeply from the sea. It is uninhabited. The new island bears no sign of vegetation as yet." It is asserted that a similar island had risen in the same spot about ten years ago, but soon disappeared again.

THE European situation has called attention sharply to the dependence of this country upon Germany for its potash supply, some 12 or more million dollars' worth of which is used annually in the United States for fertilizer. Another necessary mineral fertilizer for which the United States is entirely dependent upon a foreign country is sodium nitrate, over 21 million dollars' worth of which was imported from Chile last year. Deposits of sodium and potassium nitrate are known in Utah, Nevada, California, Oregon, Montana and New Mexico and have been described in publications of the Geological Survey and Bureau of Soils, but thus far no material of this kind has been

found in sufficient quantity to promise commercial value. The latest report that has come to the Geological Survey relates to a deposit in Arizona. One important domestic source of combined nitrogen is the gas works and by-product coke ovens, which in 1912 reported a recovery of ammoniacal liquor, ammonia and ammonium sulphate valued at \$9,519,268. This output of by-product ammonium sulphate increased in 10 years from 17,643,507 pounds to 99,070,777 pounds, and as it is linked with the great coking industry further increases can be expected. Another domestic supply of nitrogen compounds lies in the fixation of atmospheric nitrogen by electricity. Cheap hydroelectric development is necessary to establish this industry, which would make our large agricultural and industrial interests free from the uncertainties of the foreign supply. It is hoped that the water-power legislation now before the United States Senate may promote hydroelectric development in large units and thus utilize some of the great water powers in the West in obtaining nitrogen from the air.

#### UNIVERSITY AND EDUCATIONAL NEWS

BAKER UNIVERSITY, Baldwin, Kan., has completed its \$500,000 endowment fund, of which the general education board of New York gave \$50,000. The rest was contributed by 10,000 persons, the largest gift from any one of them being \$25,000. The people of Baldwin, a town of 1,200 population, gave \$45,000.

ON October 14, Central College, Fayette, Mo., completed a campaign to increase the productive endowment of the college by \$300,000. Of this amount the general educational board contributes \$75,000. This fund increases the endowment of Central College to \$500,000. The campus, buildings and equipment are valued at \$300,000.

ON October 9 exercises in connection with the laying of the corner stone of the new chemical laboratory at the University of Illinois were held. Addresses were given by Professor William A. Noyes, director of the chemical laboratory and by William Hoskins

of Chicago. The exercises were presided over by the Hon. W. L. Abbott, president of the board of trustees and President Edmund J. James laid the corner stone. The entire laboratory when completed will be 231 feet long, 202 feet wide and will contain 164,288 square feet of usable space.

AN addition is being built to the chemistry building of the University of California, costing, with its equipment, \$40,000. It will provide laboratory accommodation for 250 students.

THE uncompleted University Hall of Columbia University, which contains the power house, the gymnasium and the commons, was seriously injured by fire on the night of October 9.

A HISTORY of the University of Colorado is being compiled by Professor James F. Willard and his assistants. It will probably be published within a year.

THE medical school of the University of Pennsylvania admits women this year for the first time to the regular course.

THE registration at Harvard University, with the figures for the last year given in parentheses, is as follows: Out of course, 50; seniors (361), 425; juniors (487), 581; sophomores (741), 575; freshmen (622), 704; special (19), 12; unclassified (97), 115; totals (2,327), 2,462; Graduate School of Applied Science (114), 111; Graduate School of Arts and Sciences (426), 467; Graduate School of Business Administration (104), 142; Divinity School (45), 42; Law School (647), 668; Medical School (290), 325; Dental School (185), 190; grand totals (4,138), 4,407.

THE following changes have been made in the faculty of the Case School of Applied Sciences: Professor R. H. Danforth, who has been professor of mechanical engineering at the United States Naval Academy, professor of mechanics and hydraulics; Mr. R. O. Jackson, graduate of the University of Maine and for some time engaged in practical engineering work, instructor in mechanical engineering; Mr. B. C. Boer, instructor in descrip-